Name of the module/subject       Code 101002121010111981         Thin and Complex       Profile of study (general academic, practical)       Year /Semester 1/2         Civil Engineering Second-cycle Studies       Profile of study (general academic, practical)       Year /Semester 0bligatory         Stecond-cycle studies       Profile of study (general academic, practical)       Vear /Semester 0bligatory         Cycle of study:       Second-cycle studies       Project/seminars: 30       No. of credits         No. of ours       Lecture:       30       No. of credits       4         Status of the course in the study program (Basic, major, other) (brak)       (university-wide, from another filed)       No. of credits         Education areas and fields of science and at       ECT3 distribution (number and %)       ECT3 distribution (number and %)         Responsible for subject / lecturer: dr hab. inz. Maciej Szumigata prof. nactw. email: materyma.rzeszut.@put.poznan.pl tel. 061 665 2007       dr hab. inz. Katarzyna Rzeszut email: katarzyna Rzeszut exclupt of coll and Environmental Engineering Piotrowo 5 Street,60-965 Poznań         1       Knowledge       - basic knowledge of strength of materials, dis		STUDY MODULE D	ESCRIPTION FORM		
Field of study       Profile of study (general academic, practical)       Year /Semester         Civil Engineering Second-cycle Studies       Subject offered in: Subject offered in: Second-cycle studies       Course (compulsory, elective obligatory)         Cycle of study:       Second-cycle studies       Form of study (full-time, part-time)       No. of credits         Second-cycle studies       full-time       No. of credits       4         Status of the course in the study program (fasic, major, other)       (university-wide, from another field)       No. of credits         Education areas and fields of science and att       ECTS distribution (number and %)       ECTS distribution (number and %)         Responsible for subject / lecturer:       Responsible for subject / lecturer:       dr hab, inz. Katarzyna Rzeszut email: katarzyna, rzeszut. @put, poznan, pl tel, 061 665 20401       ECTS distribution (number and %)         Prorequisites in terms of knowledge, skills and social competencies:       - basic knowledge of strength of materials, structural analysis, construction materials, descriptive geometry, construction         1       Knowledge       - obtaining information from the standards and books - use of the compressed or bending. Studen can design simple steel elements which are tensile, compressed or bending. Studen can design simple steel elements which are tensile, compressed or bending. Studen can design simple steel elements which are tensile, compressed or bending. Studen can design simple steel elements which are tensile, compressed or bending. Studen can design simple steel element					
Civil Engineering Second-cycle Studies       (general academic, practical) (brak)       1 / 2         Elective path/specialty       Structural Engineering       Subject offered in: Polish       Course (compulsory, elective obligatory         Cycle of study:       Form of study (full-time, number polish)       Form of study (full-time)       Course (compulsory, elective obligatory         No. of the course in the study program (flassic, major, other)       Form of study (full-time)       No. of credits         Lacture:       30       Classes:       - Laboratory:       - Project/seminars:       30       4         Status of the course in the study program (flassic, major, other)       (university-wide, from another field)       No. of credits         Education areas and fields of science and art       ECTS distribution (number and %)       ECTS distribution (number and %)         Responsible for subject / lecturer:       r hab, inz, Katarzyna, rzeszut       dr hab, inz, Katarzyna, rzeszut       Reput poran, pl tel, 601 665 2007         Faculty of Civil and Environmental Engineering Plotrowo 5 Street,60-966 Poznan       - basic knowledge, skills and social competencies:         1       Knowledge       - basic knowledge of strength of materials, structural analysis, construction materials, descriptive geometry, construction         2       Skills       - use of the computer programs which support designing       - estaich nowledge         3	-		Profile of study		
Elective path/specially       Structural Engineering       Subject offered in: Polish       Course (computatory, elective obligatory         Cycle of study:       Second-cycle studies       Form of study (full-time,part-time)         Second-cycle studies       full-time         No. of neurors       Status of the course in the study program (Basic, major, other)       (university-wide, from another field)         Education areas and fields of science and art       ECTS distribution (number and %)         Responsible for subject / lecturer:       Responsible for subject / lecturer:         dr hab, inz. Maciej Szumigala prof. nadzw.       dr hab, inz. Katarzyna, Rzeszut         email: maciej szumigala prof. nadzw.       dr hab, inz. Katarzyna, Rzeszut         protowo 5 Street,60-965 Poznan       Pictrowo 5 Street,60-965 Poznan         Prerequisites in terms of knowledge, skills and social competencies:         1       Knowledge       - obtaining information from the standards and books - use of the computer programs which support designing         3       Social competencies       - responsibility competencies       - electarce:         Study outcomes and reference to the educational results for a field of study         Know the rules of design simple metal elements - [K_W04]       . Know the rules of design simple metal elements - [K_W07]         3       Social competencies:       - (K.U02]       . Can design selected metal element			(general academic, practica	al)	
Structural Engineering         Polish         obligatory           Cycle of study:         Second-cycle studies         Form of study (full-time, part-time)         Image: Second-cycle studies         full-time           No. of hours         Lacture:         30         Classes:         - Laboratory:         - Project/seminars:         30         4           Satus of the course in the study program (Basic, major, other)         (university-wide, from another field)         Mo. of credits           Education areas and fields of science and at         (brak)         (brak)         ECTS distribution (number and %)           Education areas and fields of science and at         ad %)         ECTS distribution (number and %)           Responsible for subject / lecturer:         dr hab. inz. Maciej Szumigala prof. nadzw.         dr hab. inz. Katarzyna Rzeszut         eput.poznan.pl           tel. 061 665 2401         responsible for subject / lecturer:         dr hab. inz. Katarzyna Rzeszut.@put.poznan.pl         tel. 061 665 2007           Proterquisites in terms of knowledge, skills and social competencies:         Potrowo 5 Street.60-965 Poznaf         Potrowo 5 Street.60-965 Poznaf           Proterquisites in terms of knowledge of strength of materials, structural analysis, construction materials, escret escre					
Second-cycle studies       full-time         No. of hours Lecture:       30       Classes:       -       Laboratory:       -       Project/seminars:       30       4         Status of the course in the study program (Basic, major, other)       (university-wide, from another field)       (university-wide, from another field)         Education areas and fields of science and at       (brak)       (brak)       (brak)         Responsible for subject / lecturer:       Responsible for subject / lecturer:       CST sdiatribution (number and %)         dr hab. inz. Maciej Szumigala @put.poznan.pl       email: katarzyna.rzeszut. @put.poznan.pl       enail: katarzyna.rzeszut. @put.poznan.pl         tel. 061 665 2401       Faculty of Civil and Environmental Engineering       Faculty of Civil and Environmental Engineering         Piotrowo 5 Street,60-965 Poznań       Faculty of Civil and Environmental Engineering       Faculty of Civil and Environmental Engineering         Piotrowo 5 Street,60-965 Poznań       - basic knowledge of strength of materials, structural analysis, construction materials,       descriptive geometry, construction         2       Skills       - obtaining information from the standards and books       - use of the courset         3       Social       - responsibility       - desire to expand knowledge         Assumptions and object/vess of the course       Study outcomes and reference to the educational results for					
No. of hours       No. of credits         Lecture:       30 Classes:       Laboratory:       Project/seminars:       30       4         Status of the course in the study program (Basic, major, other)       (university-wide, from another field)       (brak)       4         Education areas and fields of solence and at       (university-wide, from another field)       (brak)       ECT 3 distribution (number and %)         Responsible for subject / lecturer:       Responsible for subject / lecturer:       dr hab. inz. Katarzyna Rzeszut       email: katarzyna.rzeszut.@put.poznan.pl       tel. 061 665 2401       tel. 061 665 2401       tel. 061 665 2401       tel. 061 665 2097         Faculty of Civil and Environmental Engineering       Piotrowo 5 Street,60-965 Poznań       Piotrowo 5 Street,60-965 Poznań         Prerequisites in terms of knowledge, skills and social competencies:       - basic knowledge of strength of materials, structural analysis, construction materials, descriptive geometry, construction         2       Skills       - basic knowledge       - obtaining information from the standards and books       - use of the computer programs which support designing         3       Social       - responsibility       - desire to expand knowledge         Assumptions and objectives of the course:       Study outcomes and reference to the educational results for a field of study         Now the rules of general design of construction - [K_W04]       2. Kn	Cycle of study:		Form of study (full-time,part-time)		
Lecture:       30       Classes:       -       Laboratory:       -       Project/seminars:       30       4         Status of the course in the study program (Basic, major, other)       (university-wide, from another field)       (brak)       (brak)         Education areas and fields of science and at       (brak)       (brak)       (brak)         Responsible for subject / lecturer:       Responsible for subject / lecturer:       dr hab. inz. Katarzyna Rzeszut       email: katarzyna rzeszut.@put.poznan.pl         tel. 061 665 2401       tel. 061 665 2097       Faculty of Civil and Environmental Engineering       Piotrowo 5 Street,60-965 Poznań         Prerequisites in terms of knowledge, skills and social competencies:       -       obtaining information from the standards and books       -         1       Knowledge       - basic knowledge of strength of materials, structural analysis, construction materials, descriptive geometry, construction       -       obtaining information from the standards and books       -         3       Social       - responsibility       - desire to expand knowledge       Student can design welding and bolted joints.         Student can design simple steel elements which are tensile, compressed or bending.       Student can design simple metal elements - [K_W04]       .         2. Know the rules of general design of construction - [K_W04]       .       .       .       .	Second-cycle studies		full-time		
Status of the course in the study program (Bacis, major, other) (brak)       Integrate mathematicals, major, other) (university-wide, from another field) (brak)         Education areas and fields of science and at       (brak)         Responsible for subject / lecturer: dr hab, in2, Maciej szumigala @put.poznan.pl tel. 061 665 2401       Responsible for subject / lecturer: dr hab, in2, Maciej szumigala @put.poznan.pl tel. 061 665 2401       dr hab, inz, Katarzyna Rzeszut email: katarzyna rzeszut. @put.poznan.pl tel. 061 665 2401         Prerequisites in terms of knowledge, skills and social competencies:       - basic knowledge, skills and social competencies:         1       Knowledge       - basic knowledge of strength of materials, structural analysis, construction materials, descriptive geometry, construction         2       Skills       - obtaining information from the standards and books - use of the computer programs which support designing         3       Social competencies       - responsibility - desire to expand knowledge         4       Know ter rules of general design of construction - [K_W04]         2. Know the rules of general design of construction - [K_W04]         2. Know the rules of basics of buildings - [K_U07]         3       Study outcomes and reference to the educational results for a field of study         Know the rules of design simple metral elements - [K_U07]         3. Koad the dimension of basic structural elements - [K_U08]         Social competencies:         1. Can combine	No. of hours			No. of credits	
(brak)       (brak)         Education areas and fields of science and art       CTS distribution (number and %)         Responsible for subject / lecturer:         dr hab. in2. Maciej Szumigala prof. nadzw.       dr hab. inz. Katarzyna Rzeszut         email: maciej szumigala@put.poznan.pl       dr hab. inz. Katarzyna Rzeszut         tel. 061 665 2401       Faculty of Civil and Environmental Engineering         Paculty of Civil and Environmental Engineering       Faculty of Civil and Environmental Engineering         Prerequisites in terms       of knowledge, skills and social competencies:         1       Knowledge       - basic knowledge of strength of materials, structural analysis, construction materials, descriptive geometry, construction         2       Skills       - obtaining information from the standards and books         - use of the computer programs which support designing       - asic the oxpand knowledge         3       Social competencies       - responsibility         - design welding and bolted joints.       Student can design simple steel elements which are tensile, compressed or bending.         Student can design simple metal elements - [K_W04]       . Know the rules of general design of construction - [K_W04]         . Know the rules of buildings - [K_U02]       . Can design selected metal elements - [K_U07]         Studer competencies:         1. Can combine the loa	Lecture: 30 Classe	s: - Laboratory: -	Project/seminars:	30 4	
Education areas and fields of science and at       ECTS distribution (number and %)         Responsible for subject / lecturer:       CTS distribution (number and %)         dr hab. inz. Maciej Szumigala prof. nadzw.       dr hab. inz. Katarzyna Rzeszut         email: maciej szumigala@put.poznan.pl       tel. 061 665 2097         tel. 061 665 2091       Faculty of Civil and Environmental Engineering         Piotrowo 5 Street,60-965 Poznań       Faculty of Civil and Environmental Engineering         Piotrowo 5 Street,60-965 Poznań       Faculty of Civil and Environmental Engineering         Prerequisites in terms of knowledge, skills and social competencies:         1       Knowledge         2       Skills         3       Social         competencies       - ebsic knowledge of strength of materials, structural analysis, construction materials, descriptive geometry, construction         2       Skills         3       Social         competencies       - ebsic knowledge         Assumptions and objectives of the course:         Student can design wilding and bolted joints.         Study outcomes and reference to the educational results for a field of study         Knowledge:         1. Know the rules of general design of construction - [K_W04]         2. Know the rules of buildings - [K_U02]         2. Know the rules of buildin	•		(university-wide, from another		
and %)         Responsible for subject / lecturer:         dr hab. inż. Maciej Szumigała prof. nadzw.         emai: maciej szumigała @put.poznan.pl         tel. 061 665 2401         Faculty of Civil and Environmental Engineering         Piotrowo 5 Street,60-965 Poznań         Prerequisites in terms of knowledge, skills and social competencies:         1       Knowledge         - basic knowledge of strength of materials, structural analysis, construction materials, descriptive geometry, construction         2       Skills         3       Social competencies:         - basic knowledge       - basic knowledge         Assumptions and objectives of the course:         Study outcomes and reference to the educational results for a field of study         Knowledge:         1. know the rules of general design of construction - [K_W04]         2. Know the rules of general design of construction - [K_W07]         Skills:         1. Know the rules of budings - [K_U02]         2. Know the rules of budings - [K_U07]         3. Can design simple metal elements - [K_U08]         Schills:         1. Can work independently and in a team - [K_K01]					
dr hab. inż. Maciej Szumigała prof. nadzw.       dr hab. inż. Katarzyna Rzeszut         email: maciej.szumigala @put.poznan.pl       tel. 061 665 2401         Faculty of Civil and Environmental Engineering       Faculty of Civil and Environmental Engineering         Piotrowo 5 Street,60-965 Poznań       Faculty of Civil and Environmental Engineering         Piotrowo 5 Street,60-965 Poznań       Faculty of Civil and Environmental Engineering         Piotrowo 5 Street,60-965 Poznań       Piotrowo 5 Street,60-965 Poznań         Prerequisites in terms of knowledge, skills and social competencies:       - basic knowledge of strength of materials, structural analysis, construction materials, descriptive geometry, construction         2       Skills       - obtaining information from the standards and books         - use of the computer programs which support designing       - use of the computer programs which support designing         3       Social competencies       - responsibility         - desire to expand knowledge       - study outcomes and reference to the educational results for a field of study         Knowledge:       1.       Know the rules of general design of construction - [K_W04]         2. Know the rules of design simple metal elements - [K_W07]       - Skills:         1. Can combine the loads of buldings - [K_U07]       - Can design selected metal elements - [K_U07]         3. Can determine the dimension of basic structural elements - [K_U08]       - C	Education areas and fields of sci	ence and art			
dr hab. inž. Maciej Szumigala prof. nadzw.       dr hab. inž. Katarzyna Rzeszut         email: maciej.szumigala @put.poznan.pl       tel. 061 665 2401         Faculty of Civil and Environmental Engineering       Faculty of Civil and Environmental Engineering         Piotrowo 5 Street,60-965 Poznań       Faculty of Civil and Environmental Engineering         Piotrowo 5 Street,60-965 Poznań       Faculty of Civil and Environmental Engineering         Piotrowo 5 Street,60-965 Poznań       Piotrowo 5 Street,60-965 Poznań         Prerequisites in terms of knowledge, skills and social competencies:       - basic knowledge of strength of materials, structural analysis, construction materials, descriptive geometry, construction         2       Skills       - obtaining information from the standards and books         - use of the computer programs which support designing       - use of the course:         Student can design simple steel elements which are tensile, compressed or bending.       Student can design welding and bolted joints.         Study outcomes and reference to the educational results for a field of study       Knowledge:         1. Know the rules of general design of construction - [K_W04]       .         2. Know the rules of design simple metal elements - [K_W07]       .         Skills:       -         1. Can combine the loads of buldings - [K_U07]       .         3. Can design selected metal elements - [K_U07]       .      <					
dr hab. inž. Maciej Szumigala prof. nadzw.       dr hab. inž. Katarzyna Rzeszut         email: maciej.szumigala @put.poznan.pl       tel. 061 665 2401         Faculty of Civil and Environmental Engineering       Faculty of Civil and Environmental Engineering         Piotrowo 5 Street,60-965 Poznań       Faculty of Civil and Environmental Engineering         Piotrowo 5 Street,60-965 Poznań       Faculty of Civil and Environmental Engineering         Piotrowo 5 Street,60-965 Poznań       Piotrowo 5 Street,60-965 Poznań         Prerequisites in terms of knowledge, skills and social competencies:       - basic knowledge of strength of materials, structural analysis, construction materials, descriptive geometry, construction         2       Skills       - obtaining information from the standards and books         - use of the computer programs which support designing       - use of the course:         Student can design simple steel elements which are tensile, compressed or bending.       Student can design welding and bolted joints.         Study outcomes and reference to the educational results for a field of study       Knowledge:         1. Know the rules of general design of construction - [K_W04]       .         2. Know the rules of design simple metal elements - [K_W07]       .         Skills:       -         1. Can combine the loads of buldings - [K_U07]       .         3. Can design selected metal elements - [K_U07]       .      <					
email: maciej.szumigala@put.poznan.pl       email: katarzyna.rzeszut.@put.poznan.pl         tel. 061 665 2401       tel. 061 665 2097         Faculty of Civil and Environmental Engineering       Faculty of Civil and Environmental Engineering         Piotrowo 5 Street,60-965 Poznań       Piotrowo 5 Street,60-965 Poznań         Prerequisites in terms of knowledge, skills and social competencies: <ul> <li>basic knowledge of strength of materials, structural analysis, construction materials, descriptive geometry, construction</li> <li>obtaining information from the standards and books</li> <li>use of the computer programs which support designing</li> <li>Social</li> <li>responsibility</li> <li>desire to expand knowledge</li> </ul> <li>Assumptions and objectives of the course:</li> <li>Student can design simple steel elements which are tensile, compressed or bending.</li> <li>Study outcomes and reference to the educational results for a field of study</li> <li>Know the rules of general design of construction - [K_W04]</li> <li>Know the rules of design simple metal elements - [K_W07]</li> <li>Skills:         <ul> <li>Skills:</li> <li>Can combine the loads of buldings - [K_U02]</li> <li>Can determine the dimension of basic structural elements - [K_U08]</li> </ul> </li> <li>Social competencies:         <ul> <li>To work independently and in a team - [K_K01]</li> </ul> </li>	Responsible for subj	ect / lecturer:	Responsible for subje	ect / lecturer:	
email: maciej.szumigala@put.poznan.pl       email: katarzyna.rzeszut. @put.poznan.pl         tel. 061 665 2401       tel. 061 665 2097         Faculty of Civil and Environmental Engineering       Faculty of Civil and Environmental Engineering         Plotrowo 5 Street,60-965 Poznań       Faculty of Civil and Environmental Engineering         Plotrowo 5 Street,60-965 Poznań       Piotrowo 5 Street,60-965 Poznań <b>Rowledge</b> 1       Knowledge         2       Skills       - basic knowledge of strength of materials, structural analysis, construction materials, descriptive geometry, construction         2       Skills       - obtaining information from the standards and books         2       Scial       - responsibility         3       Social       - responsibility         - desire to expand knowledge       - the course:         Student can design simple steel elements which are tensile, compressed or bending.         Study outcomes and reference to the educational results for a field of study         Know the rules of general design of construction - [K_W04]         2. Know the rules of design simple metal elements - [K_W07]         Skills       -         1. Can combine the loads of buldings - [K_U02]         2. Can design selected metal elements - [K_U07]         3. Can determine the dimension of basic structural elements - [K_U08]<	dr hab. inż. Maciej Szumi	gała prof. nadzw.	dr hab. inz. Katarzyna Rz	eszut	
Faculty of Civil and Environmental Engineering Piotrowo 5 Street,60-965 Poznań       Faculty of Civil and Environmental Engineering Piotrowo 5 Street,60-965 Poznań         Prerequisites in terms of knowledge, skills and social competencies:       -         1       Knowledge       - basic knowledge of strength of materials, structural analysis, construction materials, descriptive geometry, construction         2       Skills       - obtaining information from the standards and books - use of the computer programs which support designing         3       Social competencies       - responsibility - desire to expand knowledge         Assumptions and objectives of the course:       Study outcomes and reference to the educational results for a field of study         Knowledge:       1. Know the rules of general design of construction - [K_W04]       2. Know the rules of design simple metal elements - [K_W07]         Skills:       1. Can combine the loads of buldings - [K_U07]       3. Can determine the dimension of basic structural elements - [K_U08]         Social competencies:       1. Can work independently and in a team - [K_K01]       1. Can work independently and in a team - [K_K01]	email: maciej.szumigala@	•		@put.poznan.pl	
Piotrowo 5 Street,60-965 Poznań       Piotrowo 5 Street,60-965 Poznań         Prerequisites in terms of knowledge, skills and social competencies:         1       Knowledge       - basic knowledge of strength of materials, structural analysis, construction materials, descriptive geometry, construction         2       Skills       - obtaining information from the standards and books         2       Skills       - obtaining information from the standards and books         3       Social competencies       - responsibility         - desire to expand knowledge       - responsibility         - desire to expand knowledge       - study outcomes and reference to the educational results for a field of study         Know ledge:       1       Know the rules of general design of construction - [K_W04]         2. Know the rules of design simple metal elements - [K_W07]       Skills:         1. Can combine the loads of buldings - [K_U07]       3. Can determine the dimension of basic structural elements - [K_U08]         Social competencies:       1. Can work independently and in a team - [K_K01]					
1       Knowledge       - basic knowledge of strength of materials, structural analysis, construction materials, descriptive geometry, construction         2       Skills       - obtaining information from the standards and books         3       Social competencies       - responsibility         4       - desire to expand knowledge         Assumptions and objectives of the course:         Student can design simple steel elements which are tensile, compressed or bending.         Study outcomes and reference to the educational results for a field of study         Knowledge:         1. Know the rules of general design of construction - [K_W04]         2. Know the rules of design simple metal elements - [K_W07]         Skills:         1. Can combine the loads of buldings - [K_U02]         2. Can design selected metal elements - [K_U07]         3. Can determine the dimension of basic structural elements - [K_U08]         Social competencies:         1. Can work independently and in a team - [K_K01]	-	• •			
1       Knowledge       descriptive geometry, construction         2       Skills       - obtaining information from the standards and books - use of the computer programs which support designing         3       Social competencies       - responsibility - desire to expand knowledge         Assumptions and objectives of the course:         Student can design simple steel elements which are tensile, compressed or bending.         Student can design welding and bolted joints.         Study outcomes and reference to the educational results for a field of study         Know He rules of general design of construction - [K_W04]         2. Know the rules of general design of construction - [K_W07]         Skills:         1. Can combine the loads of buldings - [K_U02]         2. Can design selected metal elements - [K_U07]         3. Can determine the dimension of basic structural elements - [K_U08]         Social competencies:         1. Can work independently and in a team - [K_K01]	Prerequisites in term	is of knowledge, skills an	d social competencies	8:	
2       Skills       - use of the computer programs which support designing         3       Social competencies       - responsibility         3       Social competencies       - responsibility         Assumptions and objectives of the course:       - desire to expand knowledge         Assumptions and objectives of the course:       Student can design simple steel elements which are tensile, compressed or bending.         Student can design welding and bolted joints.       Study outcomes and reference to the educational results for a field of study         Knowledge:       -         1. Know the rules of general design of construction - [K_W04]         2. Know the rules of design simple metal elements - [K_W07]         Skills:         1. Can combine the loads of buldings - [K_U02]         2. Can design selected metal elements - [K_U07]         3. Can determine the dimension of basic structural elements - [K_U08]         Social competencies:         1. Can work independently and in a team - [K_K01]	1 Knowledge			, construction materials,	
2       Skills       - use of the computer programs which support designing         3       Social competencies       - responsibility         3       Social competencies       - responsibility         Assumptions and objectives of the course:       - desire to expand knowledge         Assumptions and objectives of the course:       Student can design simple steel elements which are tensile, compressed or bending.         Student can design welding and bolted joints.       Study outcomes and reference to the educational results for a field of study         Knowledge:       -         1. Know the rules of general design of construction - [K_W04]         2. Know the rules of design simple metal elements - [K_W07]         Skills:         1. Can combine the loads of buldings - [K_U02]         2. Can design selected metal elements - [K_U07]         3. Can determine the dimension of basic structural elements - [K_U08]         Social competencies:         1. Can work independently and in a team - [K_K01]		- obtaining information from the	btaining information from the standards and books		
Source       - desire to expand knowledge         Assumptions and objectives of the course:         Student can design simple steel elements which are tensile, compressed or bending.         Student can design welding and bolted joints.         Study outcomes and reference to the educational results for a field of study         Knowledge:         1. Know the rules of general design of construction - [K_W04]         2. Know the rules of design simple metal elements - [K_W07]         Skills:         1. Can combine the loads of buldings - [K_U02]         2. Can design selected metal elements - [K_U07]         3. Can determine the dimension of basic structural elements - [K_U08]         Social competencies:         1. Can work independently and in a team - [K_K01]	2 Skills	0			
competencies       - desire to expand knowledge         Assumptions and objectives of the course:         Student can design simple steel elements which are tensile, compressed or bending.         Student can design welding and bolted joints.         Study outcomes and reference to the educational results for a field of study         Knowledge:         1. Know the rules of general design of construction - [K_W04]         2. Know the rules of design simple metal elements - [K_W07]         Skills:         1. Can combine the loads of buldings - [K_U02]         2. Can design selected metal elements - [K_U07]         3. Can determine the dimension of basic structural elements - [K_U08]         Social competencies:         1. Can work independently and in a team - [K_K01]	3 Social	- responsibility			
Student can design simple steel elements which are tensile, compressed or bending.         Student can design welding and bolted joints.         Study outcomes and reference to the educational results for a field of study         Knowledge:         1. Know the rules of general design of construction - [K_W04]         2. Know the rules of design simple metal elements - [K_W07]         Skills:         1. Can combine the loads of buldings - [K_U02]         2. Can design selected metal elements - [K_U07]         3. Can determine the dimension of basic structural elements - [K_U08]         Social competencies:         1. Can work independently and in a team - [K_K01]	competencies	- desire to expand knowledge			
Student can design welding and bolted joints.         Study outcomes and reference to the educational results for a field of study         Knowledge:         1. Know the rules of general design of construction - [K_W04]         2. Know the rules of design simple metal elements - [K_W07]         Skills:         1. Can combine the loads of buldings - [K_U02]         2. Can design selected metal elements - [K_U07]         3. Can determine the dimension of basic structural elements - [K_U08]         Social competencies:         1. Can work independently and in a team - [K_K01]	Assumptions and ob	ectives of the course:			
Study outcomes and reference to the educational results for a field of study         Knowledge:         1. Know the rules of general design of construction - [K_W04]         2. Know the rules of design simple metal elements - [K_W07]         Skills:         1. Can combine the loads of buldings - [K_U02]         2. Can design selected metal elements - [K_U07]         3. Can determine the dimension of basic structural elements - [K_U08]         Social competencies:         1. Can work independently and in a team - [K_K01]			ompressed or bending.		
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Social competencies: 1. Can work independently and in a team - [K_K01]	-		[K U08]		
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Written exam at the end of course in the summer session. Pass of exercises based on the results of two tests (welding and bolted joints). Pass a project based on the project documentation, systematic work, talk about project.

# **Course description**

The basic information about: production technology, strength, mechanical properties of steel which is used for structural elements. The basic methods of designing metal structures. The rules of designing welding and bolted joints. The basic information about structural designing, durability of structures, loads and structural reliability.

### Teaching methods

A monographic lecture with a multimedia presentation with elements of a problem-lecture lecture.

Design exercises - practical implementation of an engineering task. Initial discussion of the task, staged preparation of calculations and drawing documentation by students, consultation and approval of work stages, explanation by the teacher of repeated doubts by all the students. The basis for passing is systematically (confirmed entries from consultations) correctly executed project and its defense (oral or written form).

# Basic bibliography:

1. PN-EN 1994 Projektowanie konstrukcji zespolonych

2. PN-EN 1993-1-3 Projektowanie konstrukcji cienkościennych

## Additional bibliography:

1. Kucharczuk W., Labocha S., Konstrukcje zespolone stalowo-beetonowe budynków

2. Bródka J. Konstrukcje cienkościenne

Result of average student's workload				
Activity	Time (working hours)			
1. Lecture		30		
2. Exercises		15		
3. Project		15		
4. Prepare to test		6		
5. Calculation at home		24		
Student's wo	rkload			
Source of workload	hours	ECTS		
Total workload	110	4		
Contact hours	60	2		
Practical activities	50	2		

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